



# Australian Bureau of Statistics

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### Feature Article - Revised Household Income Distribution Statistics

#### INTRODUCTION

This article describes some limitations in the data about household incomes collected in recent years in the Survey of Income and Housing Costs (SIHC). In particular, the apparent coverage of benefit payments (government cash transfers) declined during the 1999-2000 and 2000- 2001 surveys, and investigations and corrective actions are explained.

The article announces some changes (recommended in international standards) to the way income distribution data are presented, and provides a summary table showing the effect of all these changes to data from 1994-1995 through to 1999-2000.

#### BACKGROUND

The Feature Article titled **Upgrading Household Income Distribution Statistics**, published in the April 2002 issue of **Australian Economic Indicators**, discussed a range of developments towards a more consistent time series of income distribution statistics from ABS household surveys, summarised revisions to ABS income distribution statistics that had been determined at that time, and noted issues with the coverage of government cash transfer payments (benefit transfers) as an income source in ABS household survey results.

For benefit transfers, the April 2002 article announced that processing errors with the 1998-1999 Household Expenditure Survey (HES) results significantly understated the incomes of those households with the lowest 40% of incomes. Revised 1998-1999 HES microdata were released in mid 2002, with the mean income of the bottom 20% of households revised upwards by 13%, and the mean income for the next 20% of households revised upwards by 3%.

The April 2002 article also announced that the "coverage" of benefit transfers in the 1999-2000 Survey of Income and Housing Costs (SIHC) had fallen significantly, to less than 83% of the aggregate totals published by the Department of Family and Community Services (FaCS) and the Department of Veterans' Affairs (DVA). In the four SIHC surveys to 1997-1998 coverage had been relatively stable at around 85%. Benefit transfers coverage in the yet to be published 2000-2001 SIHC data fell further, to 79%. If, as was the case with the HES processing errors, the lower coverage of SIHC benefit transfers largely related to missing payments made predominantly to households represented in the lowest two income quintiles, the change in understatement would have impacted very significantly on several of the measures used to assess income inequality.

This article summarises:

- the investigations into the undercoverage of benefit payments;
- outlines the steps taken by ABS to correct for the undercoverage;

- discusses a range of other methodological improvements in household income distribution measurement; and
- presents summary revised SIHC results from 1994-1995 to 1999-2000.

## **UNDERCOVERAGE OF BENEFIT TRANSFERS**

### **Population scope**

The SIHC does not attempt to capture all benefit transfers. The scope of the SIHC is restricted to urban and rural areas of Australia, excluding remote and sparsely settled areas of the Northern Territory, and includes only the usual residents of private dwellings, such as houses, flats, units, caravans, tents and other private structures that are places of usual residence at the time of interview. Persons living in non-private dwellings, such as hotels, boarding schools, nursing homes and other institutions, are excluded. Persons residing abroad and receiving Australian government benefit transfers are also excluded from the scope of the SIHC.

### **Underreporting**

The SIHC fails to collect some benefit payments that are made to people in scope of the survey. In some cases, respondents fail to report all their income, including government benefits. Respondents are asked to report the latest amount received as benefit transfers. These amounts are likely to be reported in SIHC, at least in part, as the **net** cash transfers usually received by the respondent. Amounts that are deducted at source, such as tax, rent or other regular commitments for which arrangements have been made for automatic deduction by Centrelink, may be excluded by some respondents. Amounts that are received less frequently than fortnightly, such as a quarterly telephone allowance, may also be excluded. Respondents may also fail to report all their income for a variety of other reasons, such as privacy concerns, difficulties in remembering income details, and unwillingness to reveal fraudulent or other illegal activity.

### **Non-response bias**

Survey results are expanded to estimates for the whole population by applying weights to survey responses. In calculating the weight to be applied to each respondent, benchmarking procedures are used to ensure that the expanded estimates are consistent with the demographic characteristics of the population as established by Population Censuses and intercensal demographic estimates. It is then assumed that survey respondents are representative of all people in the population. However, while consistency is ensured for certain demographic characteristics, this may not be the case for other characteristics being collected in the survey, such as income and source of income. The most problematic aspect is the extent to which survey respondents may differ from people who reside in dwellings selected in the survey but from whom responses were not obtained. Such differences are called non-response bias. Non-response bias may result in undercoverage or overcoverage in final survey estimates. In the case of the SIHC, aggregate estimates of total benefit transfers may therefore exhibit undercoverage or overcoverage because of non-response bias.

### **Undercoverage over time**

The net effect of scope restrictions, incomplete reporting and the population benchmarking

adopted, was a substantial but stable difference from 1994-1995 to 1997-1998 between aggregate government benefits estimated from the SIHC and aggregate benefits paid by government agencies. Variations from year to year were within the range expected to be associated with sampling error. Such undercoverage of real world income flows to households impacts on other sources of income in similar ways. The extent of undercoverage of each income source will affect the estimation of household income levels and the measurement of income distribution at any point in time. As long as undercoverage is relatively stable over time, the impact on measuring changes in income and its distribution will be limited.

However, benefit transfers coverage declined significantly over the two SIHC cycles after 1997-1998. While it might be initially concluded that the decline in 1999-2000 coverage may have been associated with sampling error, the subsequent decline in 2000-2001 could not be interpreted as sampling error. The decline in coverage was across all major benefit types and sustained across two survey cycles. The following table shows the coverage that was achieved in each survey year, using the methodology in place in April 2002 which had been modified to remove inconsistencies in estimation from year to year.

#### **SIHC COVERAGE OF CASH BENEFIT TRANSFERS**

	<b>1994-1995</b>	<b>1995-1996</b>	<b>1996-1997</b>	<b>1997-1998</b>	<b>1999-2000</b>	<b>2000-2001</b>
Initial SIHC coverage(a)	84.8%	83.8%	84.3%	85.7%	82.7%	79.3%

(a) Recompiled in April 2002 using an imputation/estimation methodology that was consistent over time.

If the increased SIHC undercoverage was due to reporting error by individuals, or processing error, or a real world change not captured in individual reporting through SIHC methodology, there was the potential for significant misrepresentation of the changes in income distribution in Australia. In addition, analysis by life cycle groups was likely to be affected by such a major omission of one income source that is more significant to certain groups.

#### **INVESTIGATING WELFARE TRANSFERS ESTIMATION**

A number of different avenues have been investigated in seeking to understand and correct for the decline in benefit transfers coverage. These include possible systems errors, appropriateness of the coverage comparison being made between aggregate SIHC estimates and aggregate benefits paid by government agencies, changes in the way that benefit transfers are made which might not be captured in the SIHC, changes in the quality of reporting by households, and options for and appropriateness of the weighting methods used to compile aggregate results.

#### **Processing Error**

Processing errors had been detected and corrected for the 1998-1999 HES, resulting in significant revisions to income estimates. However, unlike the HES processing system, which had been significantly modified between the 5 yearly HES survey cycles, the SIHC processing system had been relatively stable since its inception in 1994-1995.

And also unlike the HES processing errors, where only certain benefits had been affected, the SIHC undercoverage was across all benefits types, while the coverage of business, investment and wage and salary incomes appeared to be maintaining historical coverage levels when compared to relevant national accounting and Australian Taxation Office data. A review of the SIHC processing system did not identify either any system changes that might only have

impacted on 1999-2000 and 2000-2001 benefit estimates, or systems errors that might only be reflected systematically in estimates for the most recent two survey cycles.

In summary, no major errors were found in the SIHC processing system.

### **Coverage Comparison Between SIHC Estimates And Aggregate Benefits Paid By Government Agencies**

Because of the audit scrutiny associated with government outlays, there is little likelihood of significant error in the published aggregate benefit amounts. However, it was possible that changes in the nature of accounting for the expenditures, changes in the population composition of benefit recipients, or changes in the way that recipients were provided with their benefits may have impacted on the validity of the coverage analysis being undertaken. Nevertheless, ABS investigations showed that a stable relationship could be expected, over the period 1994-1995 to 2000-2001, between SIHC measures of benefit transfers and the aggregate transfers values published by the Departments of Family and Community Services and Veterans' Affairs because:

- the proportion of benefit recipients in special dwellings or overseas had been stable over the period when SIHC coverage declined;
- while accrual accounting was introduced as the basis of compilation for published benefit transfer aggregates from 1998-1999, the nature of the changes were not such that they would have had an adverse impact on apparent SIHC coverage;
- the published aggregate transfers values in each year of comparison with survey data only related to benefits paid, and administration costs had not been added in recent years;
- analysis of movements in selected aggregates, such as age pension payments, tracked announced changes in both benefit levels and eligibility criteria; and
- even if all affected respondents failed to include the value of the automatic deductions made on their behalf by Centrelink, such as tax or rent, the scale of the increase in such deductions was not sufficient to have a marked effect on the coverage ratios over the period under analysis.

There was one error identified through this analysis. Under the income concept used in the SIHC, the survey had failed to collect information about the one-off payment to seniors paid in 2000-2001 to income support recipients who had reached age pension age. Correcting this error accounted for 1.0 percentage point of the 3.4 percentage point deterioration in coverage in that year.

In summary, except for the one-off payment to seniors, no errors were found in the process of comparing the SIHC benefit transfer estimates with published aggregates.

### **Misreporting by SIHC Respondents (Measurement Error)**

Possible causes for respondent error contributing to the declining coverage of benefit transfers reported in SIHC included:

- respondents increasingly understating the amount of benefit transfers that they receive; and
- respondents increasingly declining to acknowledge that they were recipients of benefit transfers, whether from a privacy perspective, from a desire to hide fraudulent activity, or otherwise.

To assess the accuracy of respondents' reporting, the benefits reported by individuals were

compared to estimates of apparent benefit entitlements modelled on the basis of other reported information such as age, non-benefit income, and number of children. The analysis did not reveal any obvious decline in the average individual benefit level being reported relative to the apparent benefits entitlement. If a decline had been detected it might have suggested an increasing tendency to understate the individual amounts received. Nor did this analysis identify any increase in people not reporting welfare transfers when they had no other significant sources of income. For example, the number of persons reporting that they received the age pension in SIHC was a constant proportion of the total number of persons in the SIHC sample who were of age pension age and also had little other income.

It is possible that persons who are not entitled to receive benefit transfers, perhaps because they receive other incomes, but nevertheless claimed and received benefits, do not report the fraudulently claimed benefit income to the ABS. While this possibility is plausible for some benefit types, no evidence of an increase in fraud was identified. And no plausible explanation was identified for fraud to be the cause of an across-the-board decline in coverage of all major pension types in 1999-2000, including age pensions, disability pensions and service pensions, nor why that level of fraud would accelerate in 2000-2001.

In summary, although there may well be some misreporting by SIHC respondents, no evidence was found for any significant deterioration over the latest two years.

### **Differential Undercoverage and Demographic Benchmarks**

As with other household surveys, during estimation and weighting SIHC is benchmarked using known demographic totals (i.e. population totals of people and households, classified by age, sex, state, etc). One of the reasons to benchmark a survey is to maximise the extent to which the survey results represent the full population being surveyed. Subgroups that responded less well to the survey are therefore given larger weights than subgroups that responded more fully. However, if non-respondents differ from respondents in characteristics other than those being benchmarked, survey estimates are still subject to non-response bias.

There were several indicators that the impact of non-response on the SIHC is changing and the profile of survey respondents is becoming less representative of that of non-respondents. As a result, the SIHC estimation methodology may not have been fully effective in accommodating changing non-response patterns, leaving the potential for bias in the coverage of incomes that might result. These indicators were:

- SIHC response rates that had been relatively stable at about 90% over the period 1994-1995 to 1997-1998, but slipped to 85% from 1999-2000, the first year of the decline in benefit transfer coverage;
- an apparent and significant over-representation of children in the weighted SIHC results, indicating that households with children were more likely to respond in the SIHC than households without children; and
- the across-the-board nature of the decline in coverage of benefits suggested that weighting to demographic benchmarks was not fully compensating for differential undercoverage in the sample responses.

Various demographic benchmarking options were analysed in trying to deal with the range of representational dimensions required in SIHC results and adjusting for the undercoverage of different demographic sub-populations. While the varying combinations of benchmarks had some impact on the level of measured benefit transfers, the variations in results were usually within one standard error of each other (and at most within two standard errors) and did not offer a solution to the coverage gap. The range of benchmarking options also had virtually no impact on any of

the usual summary measures of income distribution.

In summary, while the declining response rates may be associated with changing response patterns by different types of households, it is not something that can be corrected by demographic benchmarking alone.

In arriving at the final SIHC demographic benchmarks used in the revised income distribution measures reported below, the main change has been to benchmark to the number of children in the age ranges of zero to 4 years, and 5 to 14 years, by State. However, introducing this important improvement in benchmarking, and a desire to have an estimation regime consistent across all years, required the following benchmarks that had been previously applied to be foregone:

- quarterly and half yearly benchmarking; and
- state by household counts.

The removal of subannual benchmarking is not considered significant to the quality of the SIHC results. While state household counts have been removed from the benchmarking, a range of state benchmarks remain (age groups by sex, state by part of state, state by labour force status), the new state by children age groups benchmark has been introduced, and national household benchmarks remain.

## **BENCHMARKING TO BENEFIT TRANSFERS AGGREGATES**

Following the investigation of the range of issues, discussed above, that could potentially contribute to the decline in SIHC coverage of benefit transfers, ABS concluded that the increasing SIHC undercoverage of benefit transfers resulted from an increase in the differential undercoverage of benefit recipients that could not be accommodated by demographic benchmarks alone. To directly address the undercoverage of benefit transfers the ABS has therefore introduced explicit benefit transfers benchmarks for the 1999-2000 and 2000-2001 SIHC estimates. This is consistent with the general approach of benchmarking to address differential response rates and coverage deficiencies, such as not collecting data from certain geographic areas for which the populations are nevertheless incorporated in demographic benchmarks.

- Several issues were considered in deciding how to benchmark to benefit transfers.
- Should benchmarking be to numbers of benefit recipients or to value of benefits paid?
- Should benchmarking be done at an aggregate level or by benefit type?
- Should benchmarking be to 100% of the FaCS/DVA values or some lower amount?

### **Numbers of benefit recipients or value of benefits paid?**

It was decided to benchmark to value of benefits rather than to number of recipients, because the available data on value of benefits is more reliable. While the benchmarking process ensured consistency with respect to the value of benefits, the process achieved this by increasing the survey weights assigned to respondents reporting benefits and decreasing the weights of other respondents. In other words, the benchmarking process increased the estimated number of benefit recipients, and did not amend the values of individual respondents.

### **Aggregate level or by benefit type?**

In theory, it would have been desirable to benchmark to income from individual benefits, or at least to income from broad groups of benefits, because the undercoverage has behaved differently for different benefit types over the years that SIHC has run.

However, it is known that there is some misclassification between the benefit types by respondents, such as Newstart received while ill being reported as sickness allowance. To compound the problem, the rules defining the boundary between the two have changed over time, and the degree of misclassification is likely to be greater now than in earlier years. There have also been other structural changes in benefits over time, such as youth allowance previously being part Newstart and part Austudy.

It is not possible to translate coverage rates between components in the old structure to accurately target coverage rates in the new structure, especially when dealing concurrently with both misclassification and changes in classification. Therefore attempting to benchmark to individual benefit types would imply a greater sense of accuracy than could be achieved. An analysis of the impacts of the two choices of benchmarks showed that there would be little difference between the two approaches in practice, and so it was decided to benchmark to the total income from benefits.

### **To 100% of the value paid by government agencies or some lower amount?**

Options also exist on whether to benchmark to 100% of aggregate benefits that are within scope of SIHC, or to some lesser amount. For the early, apparently stable part of the series, the survey was accounting for about 85% of aggregate benefits. Some part of the difference is attributable to the scope differences, discussed earlier, although the exact amount is not known.

In theory, if there is no measurement error in the data, the remaining undercoverage could be removed by benchmarking the sample to the total amount of benefits. However, there may be significant differences between the benefit reported by respondents and the actual amount of benefit transfers paid to them by government agencies, and benchmarking may not be an appropriate means of addressing this problem.

Excluding the impact of the scope differences, the undercoverage is likely to result from a combination of mis-reporting, or measurement error, and a failure of the benchmarking process to completely account for the impact of rising differential undercoverage. While it has been concluded that increasing measurement error does not seem to be the cause of the decline in survey coverage of benefits in recent years, measurement error may well be a significant contributor to the 'base' amount of undercoverage through the whole period. Benchmarking is not an appropriate means of correcting for measurement error if the conceptual basis of the survey response is different from that of the aggregate.

Furthermore, SIHC estimates of income other than from benefit transfers are also likely to be affected by measurement error. Correcting just the benefit income for such deficiencies, by increasing the incomes of those at the lower end of the income distribution, would alter the apparent income distribution observed in the SIHC. But it is not possible at this time to determine whether such a change would increase or decrease the accuracy of the distribution measures.

As it is not known how much of the 15% 'base' undercoverage is attributable to the impact of differential undercoverage, it was decided that the benefit value benchmark should only be applied from 1999-2000 and that it should only be used to remove the deterioration in the survey coverage of benefit transfers that occurred from that time, that is, the increase in undercoverage beyond the base amount of approximately 15%.

## ADOPTING INTERNATIONAL PRESENTATION STANDARDS FOR INCOME DISTRIBUTION STATISTICS

The April 2002 AEI article on upgrading household income statistics noted that some changes were then being implemented in ABS income distribution analysis, such as moving to the household, rather than the income unit, as the unit of analysis, focusing on equivalised disposable income rather than gross income, and using updated OECD equivalence scales. Those changes were consistent with the recommendations in the final report of the “Canberra Group” (the expert group on household income statistics that operated under the auspices of the United Nations Statistical Commission), they were endorsed by key Australian analysts, and were introduced in the first edition of **Measuring Australia's Progress** cat no. 1370.0, or MAP, published in April 2002.

### 'Person weighting' in income distribution

The revised income distribution measures in this article now reflect the additional Canberra Group recommendation that person weighting be used in deriving income distribution measures, instead of household weighting as used in MAP, or income unit weighting as used in previously published ABS income distribution statistics. Since the analysis of household income statistics is most often concerned with the economic wellbeing of individuals, the equivalised household incomes should be aggregated, or weighted, according to the number of people in each household, to produce estimates of the overall distribution of income among individuals. Unless person weighting is used to compile income distribution measures, individuals in single person households will in effect assume greater importance than individuals in multiperson households.

The weighting of income distribution measures does not relate to either survey estimation or sample weighting and benchmarking methodology as discussed earlier in this article. Rather, it is the approach taken to defining the population to which the income distribution measures relate. For example, with household weighted measures, the lowest income decile comprises the 10% of **households** with the lowest levels of equivalised disposable household income. With person weighted measures, the lowest income decile comprises the 10% of **persons** (including children) with the lowest levels of equivalised disposable **household** income.

### REVISED AND UPDATED INCOME MEASURES

The following table presents, for selected summary measures similar to those presented in the **Economic Disadvantage and Inequality: Looking more closely** chapter of MAP, revised disposable household income measures incorporating:

- revised demographic benchmarking ;
- the introduction of benefit transfer benchmarking for 1999-2000, based on the historical coverage rate achieved for benefit payments;
- the use of person weighting in the derivation of income distribution measures to better reflect the economic wellbeing of individuals, including children; and
- normalising equivalised income estimates around a single person household (i.e. an equivalising factor of 1 for lone person households), consistent with the move to person weighting in the derivation of income distribution measures.

**TABLE 1 SELECTED MEASURES OF EQUIVALISED DISPOSABLE HOUSEHOLD INCOME(a)**

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Indicator	Unit	1994-1995	1995-1996	1996-1997	1997-1998	1999-2000	Change: 1994-1995 to 1999-2000	Standard error on absolute change	
							Absolute	%	
EQUIVALISED MEAN WEEKLY HOUSEHOLD INCOME FOR SELECTED GROUPS(b)									
Low income(c)	\$	213	214	222	224	227	14	6.3	
Middle income(d)	\$	351	347	359	366	381	30	8.4	
High income(e)	\$	746	728	749	784	829	82	11	
EQUIVALISED HOUSEHOLD INCOME OF PERSONS AT TOP OF SELECTED INCOME PERCENTILES(b)									
20th(P20)	\$	212	211	220	222	227	15	6.9	
50th(P50)	\$	350	346	359	363	382	32	9	
80th(P80)	\$	543	545	558	568	599	56	10.3	
RATIOS OF HOUSEHOLD INCOMES OF PERSONS AT TOP OF SELECTED INCOME PERCENTILES									
P90/P10	Ratio	3.77	3.74	3.66	3.77	3.89	0.12	3.1	0.08
P80/P20	Ratio	2.56	2.58	2.53	2.56	2.64	0.09	3.3	0.037
P80/P50	Ratio	1.55	1.57	1.56	1.56	1.57	0.02	1.4	0.023
P20/P50	Ratio	0.61	0.61	0.61	0.61	0.59	-0.01	-2.0	0.006
SHARE OF TOTAL INCOME RECEIVED BY PERSONS WITH									
High incomes(e)	%	37.8	37.3	37.1	37.9	38.4	0.6	1.5	0.42
Low incomes(c)	%	10.8	11	11	10.8	10.5	-0.3	-2.5	0.07
Gini coefficient(f)	Ratio	0.302	0.296	0.292	0.303	0.31	0.008	2.6	0.00431

(a) All estimates have been compiled using the "modified" OECD equivalence scale

(b) Adjusted for changes in the Consumer Price Index; values are given in 1999-2000 dollars.

(c) Persons in the 2nd and 3rd income deciles after being ranked by their equivalised household income.

(d) Persons in the middle income quintile (5th and 6th deciles) after being ranked by their equivalised household income.

(e) Persons in the top income quintile (9th and 10th deciles) after being ranked by their equivalised household income.

(f) A summary measure of income distribution between 0 and 1. Values closer to 1 indicate greater inequality than values closer to 0.

For the period 1994-1995 to 1997-1998, the changes made to SIHC methodology are limited to revised demographic benchmarking, and the adoption of the more appropriate person weighting of income distribution measures.

The change to person weighting has resulted in a lowering of the level of the percentile ratios P90/P10, P80/P20, and P80/50, an increase in the P20/P50 ratio, a lowering of the high incomes' share of income and an increase in the low incomes' share, and a lower Gini coefficient. The lowering of the measures largely reflects a scaling effect.

Of more interest are changes in movement over time. And over those first four years of SIHC results, the movements in all the percentile ratios, in the income shares and in the Gini coefficient, are the same as or less than the movements presented in MAP, indicating that the story of little or no change in income inequality described in MAP remains unchanged for this

period. The real household incomes of the low, middle and high income persons all rose by a similar amount over this period.

When looking at the data for 1999-2000, the story since 1994-1995 is somewhat mixed. Movements in the Gini coefficient, the P90/P10, P80/50 and the P20/P50 ratios, and the increase in income share going to the high income persons are all within two standard errors (i.e., not statistically significant at the 95% confidence level), while the increase in the P80/P20 ratio and the fall in the low income persons' share of income are significant at the 95% confidence level. Moreover, relaxing the confidence level to 90% would result in the conclusion that the movements in the Gini and the P20/P50 ratios are also significant, generally presenting a picture of some possible rise in income inequality over the second half of the 1990s. That rise in inequality reflects only a 1% real increase in low incomes in the period 1997-1999 to 1999-2000, with much stronger real increases in the incomes of people in middle and high income households (4% and 6% respectively).

Looking at the increases in aggregate incomes by source sheds some light on the apparent increase in inequality to 1999-2000. From 1994-1995 to 1997-1998, aggregate benefit incomes (which account for a little over 10% of measured income in the SIHC) rose by 14%, wages and salaries (which account for about 70% of incomes measured in the SIHC) rose by 15%, with somewhat stronger rises in the smaller components of business income (up 26%) and other (particularly investment) income (up 22 percent). In the two years to 1999-2000 benefit income rose by 5%, representing annual increases similar to that achieved in the previous 4 years. However, wages and salaries income grew much more strongly (up 12%), as did incomes from business (up 22%) and other income (up 32%).

## **CURRENT VERSUS ANNUAL INCOME MEASURES**

The "current" income measures that have been the focus of ABS income distribution publications in the past have been developed using the aggregation of current benefit and wage and salary information (reportable by householders from the regular receipt of such incomes) and the unincorporated business and investment income earned in the previous financial year. Historically it has not been possible to reliably collect "current" business and investment incomes. While the annual benefit and wage and salary incomes from the previous financial year have been collected and released in SIHC Confidentialised Unit Record Files, they have not been presented in summary form in ABS publications.

The Canberra Group recommends the use of annual income measures as the most appropriate for income distribution analysis, reflecting the view that any shorter period may not be typical. People's short term experiences may have current income rising or declining significantly but briefly, such that current income is not a good proxy for the economic wellbeing of those people. The Canberra Group does, however, recognise that for practical reasons household surveys may need to collect different income types on different accounting periods.

As part of the review of income distribution statistics that arose from the decline in SIHC coverage of benefit transfers, the previous financial year benefit transfers amounts were also examined. In the earlier SIHC cycles, a relatively large number of records were identified where the respondents were current benefit recipients, appeared to have been eligible for benefits (such as age pension benefits) in the previous financial year, but for whom there was either no (or very little) annual benefit income or any other significant annual income recorded for the previous financial year. In the 1994-1995 and 1995-1996 SIHCs in particular, estimated annual benefit incomes appeared to be significantly understated, in part due to errors associated with a fortnightly or similar short period entitlement being represented in the files as an annual benefit receipt, and in part due to a significant number of recipients having implausibly low previous financial year benefit income. The benefit transfers for each of these two years have now been

revised upwards by \$1.8 billion and \$1.4 billion respectively, based upon modelling the benefit entitlement of respondents.

Changes were made to the SIHC survey form from 1996-1997 to address the apparent data capture error associated with subannual benefit receipts being recorded as annual incomes. However, there remained in subsequent surveys some reporting/processing errors that were reflected in no previous financial year incomes being reported by current benefit recipients. Modelling benefit entitlements was therefore used to also revise results for 1996-1997 (up by \$1 billion), 1997-1998 (up by \$0.8 billion) and 1999-2000 (up by \$0.6 billion). The modelling approach could only be used for those types of benefits which would be expected to continue on a relatively permanent basis, such as age pension or disability support pension. Modelling could not be used for more short term benefit types such as Newstart.

Preliminary analysis of the revised annual income measures from 1994-1995 to 1999-2000 shows that, for many of the income distribution measures discussed above, the movements are similar to those derived from the composite "current" income measures.

It is expected that analysts will always want a "current" income view to provide an up-to-date picture of household income and its distribution, even where that picture is a composite of current wage and salary and benefit incomes and previous financial year business and investment incomes. Annual incomes are, of necessity, going to lag what can be presented on a current basis. However, in future ABS income distribution publications (including the 2000-2001 issue discussed below) annual household income data will be presented in addition to the current income data.

The collection options for current business and investment income are currently being explored to see whether changed record keeping practices following the introduction of the New Tax System in July 2000 will support more reliable reporting of this information than has been considered possible in the past. Options will also be explored for moving annual business and investment incomes onto a standardised current basis.

## **AVAILABILITY OF REVISED INCOME DISTRIBUTION STATISTICS**

The results from the 2000-2001 SIHC, as well as a more detailed analysis of the movements in income distribution measures from 1994-1995 to 1999-2000, will be provided in the 2000-2001 issue of **Income Distribution, Australia** cat no.6523.0, which is due to be released on 8 July 2003.

Revised Confidentialised Unit Record Files (CURFs) on CD-ROM are being prepared for each of the SIHC survey cycles from 1994-1995 to 1999-2000, incorporating all of the revisions discussed in this article, as well as including new household level items to facilitate analysis. CURF clients will be contacted shortly about arrangements for obtaining replacement files. It is anticipated that a CD-ROM CURF will be released for the 2000- 2001 SIHC cycle shortly after publication in July 2003.

## **FURTHER INFORMATION**

For further information about the revisions discussed in this article or about other ABS plans to upgrade income distribution statistics please contact Leon Pietsch, Director, Living Conditions, on 02 6252 6616 or [leon.pietsch@abs.gov.au](mailto:leon.pietsch@abs.gov.au).

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